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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/698,143      | 10/30/2000  | Satoshi Shinada      | Q60866              | 6582             |

7590 04/16/2004

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| EXAMINER |
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NGHIEM, MICHAEL P

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| ART UNIT | PAPER NUMBER |
|----------|--------------|

2863

DATE MAILED: 04/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/698,143

Applicant(s)

SHINADA ET AL.

Examiner

Michael P Nghiem

Art Unit

2863

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 2,9,13,17,18,20-25,27-31,33-46 and 48-50 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2,9,13,18,20-24,28,31,35,36,38-44 and 46 is/are allowed.
- 6) ☒ Claim(s) 17,27,29,30,33,34,37,45 and 48 is/are rejected.
- 7) ☒ Claim(s) 25,49 and 50 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

The Amendment filed on February 13, 2004 has been acknowledged.

### ***Specification***

1. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: The limitation of re-inserting the ink cartridge into the ink jet recording apparatus in a second direction which is different from a first direction (claims 49, 50) is not described in the specification.

### ***Claim Objections***

2. Claim 25 is objected to because of the following informalities: "said holder" (lines 2-3) lacks antecedent basis. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 48-50 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 48, the relationship between the ink chamber (line 2) and the internal space (line 4) of the container body is not recited (previously in cancelled claim 16).

Is there a relationship between the ink chamber and the first and second divided chambers?

The remaining claims are also rejected under 35 U.S.C. 112, second paragraph, for being dependent upon a rejected base claim.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 17 is rejected under 35 U.S.C. 102(e) as being anticipated by Sasaki (US 6,270,207).

Sasaki discloses all the claimed features of the invention including:

- an ink cartridge (1, Figs. 1, 19) for use in an ink jet recording apparatus (column 1, line 13) comprising:

- a container body (body of 1) having an ink absorbing member (8) for absorbing ink in an ink chamber (9);

- an ink supply port (15) which communicates said ink chamber to a recording head (72) (Fig. 1);

- wherein an internal space of said container body is divided into a plurality of areas by walls (5-7),

- wherein at least one of said areas (9) stores ink and at least one of said areas is isolated from the stored ink (space above 18, Fig. 1, or 33, Fig. 19), wherein only said at least one of said areas storing ink is provided with said ink supply port and said ink absorbing member (Fig. 1), and wherein one of said areas which has no ink supply ports is open to outside of said container body (via 18), and said container body is installed in an air tight and gas impermeable package (81) so as to maintain a pressure lower than atmospheric pressure (column 18, lines 32-35).

Claims 27, 29, and 30 are rejected under 35 U.S.C. 102(e) as being anticipated by Nozawa et al. (US 6,102,533).

Regarding claims 27, 29, and 30, Nozawa et al. discloses an ink cartridge (Fig. 6) for use in an ink jet recording apparatus (Fig. 10) comprising:

- a container body (400) having a first side wall (back side wall of 400) and a bottom wall (bottom wall of 400) wherein where the first side wall and the bottom wall join, a protruding portion (410) is formed to protrude into said container body (Fig. 1);
- an ink absorbing member (416) for absorbing ink is housed in an ink chamber (Figs. 5's);
- an ink supply port (401) which communicates said ink chamber to a recording head (100) (Fig. 1), wherein said ink supply port is formed on the bottom wall (Fig. 6);
- a lid member (top wall of 400) sealing an opening portion of said container body (Fig. 5b),
- wherein a bottom portion of the side wall (at 410) in said container body protrudes to the ink chamber (Fig. 5's).

Regarding claim 29, Nozawa et al. further discloses that said protruded portion includes a sloping portion (sloping portion of 410, Figs. 5A's).

Regarding claim 30, Nozawa et al. further discloses that said ink absorbing member (416 of central chamber, Fig. 1) is strongly compressed at a central area of a bottom portion of said ink chamber (416 of central chamber is compressed by 330, Fig. 1).

Claim 34 is rejected under 35 U.S.C. 102(e) as being anticipated by Matsuzaki et al. (US 6,416,152).

Matsuzaki et al. discloses all the claimed features of the invention including:

- an ink cartridge (20, Figs. 7's) for use in an ink jet recording apparatus (Fig. 1) comprising:

- a container body (23) having an ink absorbing member (24) for absorbing ink in an ink chamber (Fig. 2);

- an ink supply port (21) which communicates said ink chamber to a recording head (8);

- a lid member (22) sealing an opening portion of said container body (Fig. 2);

- ribs (projections from 22) formed in the back of the lid member so as to be opposed to said ink supply port (Fig. 2) and to press the ink absorbing member toward said ink supply port (Fig. 2) according to a height of the ink absorbing member (height of 24, Fig. 2), wherein ink volume is adjusted according to the volume of said ink absorbing member (ink volume of 24 depends on volume of 24), and a storage device (30) storing information regarding an ink stored amount is attached so as to be readable by a recording apparatus (Figs. 7's, 8).

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

Art Unit: 2863

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 48 is rejected under 35 U.S.C. 102(b) as being anticipated by Shinada et al. (US 5,790,158).

Shinada et al. discloses all the claimed features of the invention including:

- an ink cartridge (Figs. 15's) for use in an ink jet recording apparatus (Fig. 1),

comprising:

- a container body (501) having an ink absorbing member (520) for absorbing ink in an ink chamber (chamber of 501);

- ink supply ports (513, 513', 513'') which communicate said ink chamber to a recording head (4);

- wherein an internal space of said container body is divided into a first divided chamber (511, 511', 511'') and a second divided chamber (512, 512', 512'') by an area wall (510) parallel to an ink supply ports arrangement direction (Figs. 15a, Fig. 16), said first divided chamber being isolated from said second divided chamber by said area wall (Figs. 15a, 16),

- wherein said first divided chamber is further divided into areas by chamber walls (502, 503) perpendicular to said area wall (Fig. 16), and each of said areas is provided with one of said ink supply ports (Figs. 15's, 16),



- wherein said second divided chamber contains one of reserve ink and maintenance liquid (ink),
- wherein said reserve ink is supplied to said recording head (via 511 and 519),
- wherein each chamber is supplied with at least one ink supply port (each of 511, 511', 511" has one of ink supply ports 513, 513', 513", respectively).

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nozawa et al. in view of Matsuzaki et al..

Nozawa et al. discloses all the claimed features as discussed above except a storage device storing information regarding ink stored amount is attached so as to be readable by a recording apparatus.

Nevertheless, Matsuzaki et al. discloses a storage device (30) to be readable by a recording apparatus (Figs. 7's, 8) for the purpose of storing ink related information.

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to provide Nozawa et al. with a storage device as disclosed by Matsuzuki et al. for the purpose of storing ink related information.

Claims 33 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishinaga et al. in view of Matsuzaki et al..

Ishinaga et al. discloses all the claimed features as follows:

- an ink cartridge (100) for use in an ink jet recording apparatus (Fig. 2) comprising:
  - a container body (body of 100) having an ink absorbing member (102) for absorbing ink in an ink chamber (101);
  - an ink supply port (100a) which communicates said ink chamber to a recording head (column 13, line 10);
  - the internal space of said container body divided into a plurality of areas by walls (Fig. 2);
  - wherein at least one of said areas stores ink (101) and at least another one of said areas is isolated from and does not store the ink (103), and wherein only said at least one of said areas storing ink is provided with said ink supply port and said ink absorbing member (Fig. 2).

However, Ishinaga et al. does not disclose a storage device storing information regarding an ink stored amount is attached so as to be readable by a recording apparatus.

Nevertheless, Matsuzaki et al. discloses a storage device (30) to be readable by a recording apparatus (Figs. 7's, 8) for the purpose of storing ink related information.

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to provide Ishinaga et al. with a storage device as disclosed by Matsuzaki et al. for the purpose of storing ink related information.

***Allowable Subject Matter***

7. Claims 49 and 50 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

8. Claim 25 would be allowable if rewritten to overcome the objection set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

9. Claims 2, 9, 13, 18, 20-24, 28, 31, 35, 36, 38-44, and 46 are allowed.

***Reasons For Allowance***

10. The combination or method as claimed wherein an ink injecting port and an air communicating port are formed in said lid member, and through holes are formed in said spacer so as to be opposed at least to said ink injecting port (claim 2) or a convex portion is formed at said ink supply port, said convex portion protrudes from a bottom of said container body and has an ink flow path communicating with said ink supply port (claim 9) or each of said plurality of ink chambers is provided with said ink absorbing member and said spacer (claim 13) or a first rib height of said first ribs is different than a second rib height of said second ribs, and wherein a first member volume of said first ink absorbing member is different than a second member volume of said second ink absorbing member (claims 18, 42) or at least one rib formed at said concave portion so as to be parallel to the third side wall and to protrude to said ink supply port (claim 20) or said container body has a second side wall which is shorter than said first side wall (claim 28) or said ink supply port communicates with a concave portion formed at a projection extending from a substantially central portion of the bottom wall (claim 31) or said concave portion protrudes into said ink chamber (claims 35, 46) or re-inserting the ink cartridge into the ink jet recording apparatus in a second direction, said second direction is different from a first direction (claims 49, 50) is not disclosed, suggested, or made obvious by the prior art of record.

***Response to Arguments***


11. Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

***Contact Information***

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Nghiem whose telephone number is (571) 272-2272. The examiner can normally be reached on M-H from 6:30AM – 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached at (571) 272-2269. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

  
**MICHAEL NGHIEM**  
**PRIMARY EXAMINER**

Michael Nghiem

April 14, 2004